5 **ABSTRACT**

A method for depth matching borehole images and / or core section images is disclosed wherein signals from sensors at different levels on a logging tool are converted into an averaged signal representing the average bed signal at the center of the borehole at each of

10 the different levels. A depth matching technique is applied to the averaged signals from the sensors at different levels on the logging tool to determine the optimum depth offset necessary for matching two sets of signals from sensors at the different levels of the logging tool. In an alternative embodiment of the invention a Hough transform is utilized to process the well log images and generate three-dimensional images in Hough space. The three

15 dimensional images are converted into two-dimensional extremum curves. Depth matching is performed on the two dimensional extremum curves to calculate an offset to match the two dimensional extremum curves. The calculated offset is then applied to the well log images to depth match them.